

TREND AND CUT-OFF POINT OF NEONATAL MENINGITIS ONSET IN A HIGHLY MULTIDRUG-RESISTANT AREA

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Abstract. In order to compare the trend in meningitis between 1991-2002 (period 1) and 2003-2014 (period 2) and to identify a cut-off point in culture-proven meningitis, we performed a retrospective comparative study in a neonatal intensive care unit (NICU) in Thailand. Over a total of 24 years, the number of patients, episodes and pathogenic organisms of culture-proven meningitis was 46, 54, and 62, respectively. Prevalence of culture-proven meningitis cases was 0.037% of live births and 0.52% of NICU-admitted neonates. Median (interquartile range) gestational age (GA) and birthweight (BW) was 35 (7) weeks and 2,045 (1,208) g, respectively. The case fatality rate was 21.7% (10/46). In period 2, preterm (odds ratio (OR) = 6.4) and low BW (OR = 7.8) are significantly higher than in period 1 ($p = 0.007$ and 0.006 , respectively). *Acinetobacter baumannii* was the most common (16%) causative organism and cause (40%) of death, which increased significantly in period 2 ($p = 0.03$). Within 48 hours of birth, no multidrug resistant (MDR) organisms were found (0/2); however, within 72 hours MDR organisms were found in 44% (7/16) of the subjects. In conclusion, prematurity was a risk factor of meningitis in more recent period. Early onset meningitis should have a cut-off within 48 hours in areas with high frequency of high MDR organisms.

Keywords: *Acinetobacter baumannii*, meningitis, multiple drug resistance, neonate, sepsis

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